

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 50 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

Asp Asp Ala Arg Thr Arg Ser Val Leu Tyr Thr Gln Tyr Ile Ala Leu
1 5 10 15
Glu Leu Asp Phe Leu Asn Ala Met Pro Leu Phe Ala Ile Arg Asn Gln
20 25 30
Glu Val Pro Leu Leu Met Val Tyr Ala Gln Ala Ala Asn Leu His Leu
35 40 45
Leu Leu
50

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 50 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

Asn Asp Ala Arg Ser Arg Ser Ile Ile Leu Glu Arg Tyr Val Ala Leu
1 5 10 15
Glu Leu Asp Ile Thr Thr Ala Ile Pro Leu Phe Arg Ile Arg Asn Glu
20 25 30
Glu Val Pro Leu Leu Met Val Tyr Ala Gln Ala Ala Asn Leu His Leu
35 40 45
Leu Leu
50

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 50 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

Asn Asp Ala Arg Ser Arg Ser Ile Ile Leu Glu Arg Tyr Val Ala Leu
 1 5 10 15
 Glu Leu Asp Ile Thr Thr Ala Ile Pro Leu Phe Arg Ile Arg Asn Glu
 20 25 30
 Glu Val Pro Leu Leu Met Val Tyr Ala Gln Ala Ala Asn Leu His Leu
 35 40 45
 Leu Leu
 50

(2) INFORMATION FOR SEQ ID NO:49:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 50 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

Asn Asp Ala Arg Ser Arg Ser Ile Ile Arg Glu Arg Tyr Ile Ala Leu
 1 5 10 15
 Glu Leu Asp Ile Thr Thr Ala Ile Pro Leu Phe Ser Ile Arg Asn Glu
 20 25 30
 Glu Val Pro Leu Leu Met Val Tyr Ala Gln Ala Ala Asn Leu His Leu
 35 40 45
 Leu Leu
 50

(2) INFORMATION FOR SEQ ID NO:50:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 50 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

Asn Asn Thr Arg Ala Arg Ser Val Val Lys Ser Gln Tyr Ile Ala Leu
 1 5 10 15
 Glu Leu Met Phe Val Gln Lys Leu Pro Ser Phe Ala Val Ser Gly Glu
 20 25 30

Glu Val Pro Leu Leu Pro Ile Tyr Ala Gln Ala Ala Asn Leu His Leu
 35 40 45

Leu Leu
 50

(2) INFORMATION FOR SEQ ID NO:51:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 50 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Asn Asn Thr Arg Ala Arg Ser Val Val Lys Asn Gln Tyr Ile Ala Leu
 1 5 10 15
 Glu Leu Met Phe Val Gln Lys Leu Pro Ser Phe Ala Val Ser Gly Glu
 20 25 30
 Glu Val Pro Leu Leu Pro Ile Tyr Ala Gln Ala Ala Asn Leu His Leu
 35 40 45
 Leu Leu
 50

(2) INFORMATION FOR SEQ ID NO:52:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 22 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

GGATCCCTCG AGCTGCAGGA GC

22

(2) INFORMATION FOR SEQ ID NO:53:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 55 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ix) FEATURE:

- (A) NAME/KEY: modified_base
 (B) LOCATION: 31..33